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Traction for low-back pain with or without sciatica (Review)

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[Intervention Review]

Traction for low-back pain with or without sciatica

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ABSTRACT

Background

Traction is used to treat low-back pain (LBP), often with other treatments.

Objectives

To determine traction's effectiveness, compared to reference treatments, placebo, sham traction or no treatment for LBP.

Search strategy

We searched CENTRAL (The Cochrane Library 2006, issue 4), MEDLINE, EMBASE, and CINAHL to October 2006, references in relevant reviews and personal files.

Selection criteria

Randomized controlled trials (RCTs) involving traction to treat acute (less than four weeks duration), sub-acute (four to 12 weeks) or chronic (more than 12 weeks) non-specific LBP with or without sciatica.

Data collection and analysis

Study selection, methodological quality assessment and data extraction were done independently by two authors. As there were insufficient data for statistical pooling, we performed a qualitative analysis.

Main results

We included 25 RCTs (2206 patients; 1045 receiving traction). Five trials were considered high quality.

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For patients with mixed symptom patterns (acute, sub-acute and chronic LBP with and without sciatica) there is:

- strong evidence of no statistically significant difference in outcomes between traction as a single treatment and placebo, sham or no treatment;
- moderate evidence that traction as a single treatment is no more effective than other treatments;
- limited evidence of no significant difference in outcomes between a standard physical therapy program with or without continuous traction.

For LBP patients with sciatica (with acute, sub-acute or chronic pain), there is conflicting evidence in several comparisons:

- autotraction compared to placebo, sham or no treatment;
- other forms of traction compared to other treatments;
- different forms of traction.

In other comparisons, there were no statistically significant differences; the evidence is moderate for continuous or intermittent traction compared to placebo, sham or no treatment, and limited for light versus normal force traction.

Authors' conclusions

Implications for practice

The results of the available studies involving mixed groups of acute, sub-acute and chronic patients with LBP with and without sciatica were quite consistent, indicating that continuous or intermittent traction as a single treatment for LBP is not likely effective for this group. Traction for patients with sciatica cannot be judged effective at present either, due to inconsistent results and methodological problems in most studies. We conclude that traction as a single treatment for LBP is probably not effective.

Implications for research

Any future research on traction for patients with LBP should distinguish between symptom pattern and duration, and should be carried out according to the highest methodological standards.

PLAIN LANGUAGE SUMMARY

Traction for low-back pain

This systematic review involves the effect of traction for patients with acute, sub-acute or chronic low-back pain, with or without sciatica. Outcomes of interest include pain, functional status, global measures (such as overall improvement), and return to work.

Low-back pain (LBP) is a major health problem among populations in western industrialized countries and a major cause of medical expenses, absenteeism and disablement. Various types of traction are used to treat low-back pain patients, often in combination with other treatments. The most commonly used traction techniques are mechanical or motorized traction (where the traction is exerted by a motorized pulley) and manual traction (in which the traction is exerted by the therapist, using his or her body weight to alter the force and direction of the pull).

The review includes 25 studies, and 2206 patients with LBP. In studies involving patients with a mix of symptoms (i.e., where some but not all had sciatica), results consistently showed that traction (continuous or intermittent) as a single treatment for LBP was not more effective than placebo, sham treatment or other treatments. For patients with sciatica, there is conflicting evidence on many of the comparisons, but moderate evidence that continuous or intermittent traction is not more effective than other treatments.

Seven of the 25 studies report that patients receiving traction experienced some adverse effects (such as increased pain, subsequent surgery); two studies reported that there were no adverse effects; in the remaining studies adverse effects were not mentioned.

A limitation of this review stems from the scarcity of high quality studies, especially those which distinguish between patients with different symptom patterns (with and without sciatica, with pain of different duration).